

We claim:

--1. A method for managing a network, the network comprising:

partitioning the network into at least one subnet, the

5 at least one subnet including a plurality of clients;

selecting one of the plurality of clients to be operable as a subnet controller; and

selecting another of the plurality of clients to be operable as a successor subnet controller,

10 the subnet controller and the successor subnet controller being operable for determining health of the plurality of clients within the at least one subnet.

--2. The method as set forth in claim 1, wherein

15 selecting the one of the plurality of clients to be operable as the subnet controller includes

monitoring communications between each of the plurality of clients for determining whether one of the plurality of clients is operating as the subnet controller,

20 and

performing a local election amongst the plurality of clients within the at least one subnet if it is determined that one of the plurality of clients is not operating as the subnet controller.

--3. The method as set forth in claim 2, wherein  
monitoring communications includes

monitoring communications for a first predetermined  
5 period of time for determining whether one of the plurality  
of clients is operating as the subnet controller, and  
repeating the monitoring after expiration of a second  
predetermined period of time.

10 --4. The method as set forth in claim 3, wherein  
monitoring communications for the first predetermined  
period of time includes

determining whether communication is originating from  
one of the plurality of clients indicative of the one of  
15 the plurality of clients operating as the subnet  
controller.

--5. The method as set forth in claim 4, wherein  
determining whether communication is originating from  
20 the one of the plurality of clients includes

determining whether another of the plurality of  
clients receives a request for status from the one of the  
plurality of clients.

--6. The method as set forth in claim 1, wherein  
the other of the plurality of clients is selected as  
the successor subnet controller when one of the subnet  
controller will be powered down, processor speed of the  
5 subnet controller has decreased below a predetermined  
threshold, memory capacity of the subnet controller has  
decreased below a predetermined capacity, the subnet  
controller is improperly operating and a user logs into the  
subnet controller.

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--7. The method as set forth in claim 1, wherein  
selecting another of the plurality of clients to be  
operable as the successor subnet controller includes  
generating by the subnet controller a number,  
15 transmitting by the subnet controller the number to  
each of the other plurality of clients,  
generating by the each of the other plurality of  
clients a respective number,

20 comparing by the each of the other plurality of  
clients the respective number with the number associated  
with the subnet controller to determine if the respective  
number is greater than the number,

transmitting by at least one of the other plurality of  
clients its respective number to the other of the plurality

of clients if it is determined that its respective number is greater than the number, and

repeating until one of the plurality of clients determines that its respective number is greater than the  
5 respective number of each of the other plurality of clients.

--8. The method as set forth in claim 7, wherein  
generating the number includes using a software  
10 application stored in a memory unit associated with the subnet controller to evaluate at least one of the following criteria associated with the subnet controller: processor speed, whether a user is logged into the subnet controller, a number of users connected to the subnet controller, a  
15 memory size, a network connection speed, central processing utilization and a number of processors.

--9. The method as set forth in claim 7, wherein  
generating the respective number for each of the other  
20 plurality of clients includes using a software application stored in a memory unit to evaluate at least one of the following criteria: processor speed, whether a user is logged in, a number of connected users, a memory size, a

network connection speed, central processing utilization  
and a number of processors.

--10. The method as set forth in claim 1, wherein

5 selecting another of the plurality of clients to be  
operable as the successor subnet controller includes

the subnet controller maintaining a list of data  
identifying one or more of the plurality of clients having  
a number greater than a number associated with the subnet  
10 controller, each number being determined by evaluating at  
least one of the following criteria associated with the  
subnet controller and associated with the one or more of  
the plurality of clients: processor speed, whether a user  
is logged in, a number of connected users, a memory size, a  
15 network connection speed, central processing utilization  
and a number of processors,

determining the client identified in the list having  
the greatest number that is available for operating as the  
successor subnet controller, and

20 selecting the client to be operable as the successor  
subnet controller, if at least one client is available.

--11. The method as set forth in claim 10, wherein

determining the client identified in the list having the greatest number that is available for operating as the successor subnet controller includes

determining whether the client identified in the list  
5 responded to data transmitted to the client from the subnet controller.

--12. The method as set forth in claim 10, further comprising:

10 performing a local election within the at least one subnet if at least one client in the list is not available for operating as the successor subnet controller to determine the successor subnet controller.

15 --13. The method as set forth in claim 1, wherein determining the health of the plurality of clients includes implementing at least one health rule by the subnet controller and the successor subnet controller, the at least one health rule being stored locally at the subnet  
20 controller and the successor subnet controller.

--14. The method as set forth in claim 13, wherein the at least one health rule includes at least one of

determining whether a particular application is  
running on each of the plurality of clients,

determining a date of a particular virus definition  
file on each of the plurality of clients and whether the  
5 file is greater than a predetermined number of days,

determining whether each of the plurality of clients  
is running a particular server, and

determining whether a particular library is a  
particular version on each of the plurality of clients.

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--15. A method for managing a subnet having a  
plurality of clients, the method comprising:

operating as a subnet controller, the subnet  
controller being one of the plurality of clients;

15 reporting to a global controller;

receiving data from the global controller;

transmitting data to the plurality of clients within  
the subnet;

receiving feedback data from at least one client of  
20 the plurality of clients;

evaluating the feedback data for determining health of  
the at least one client; and

reporting to the global controller data regarding the  
health of the at least one client.

--16. The method as set forth in claim 15, further comprising:

determining a client of the plurality of clients to  
5 check the health of the clients within the subnet that did  
not provide the feedback data to the subnet controller; and  
receiving data from the client regarding the health of  
the clients that did not provide the feedback data.

10 --17. The method as set forth in claim 15, wherein  
the global controller is located outside the subnet  
and  
reporting to the global controller includes  
reporting to the global controller after expiration of  
15 a predetermined amount of time.

--18. The method as set forth in claim 15, wherein  
receiving data from the global controller includes  
receiving at least one health rule for the subnet  
20 controller to manage the subnet.

--19. The method as set forth in claim 18, wherein  
the at least one health rule includes at least one of



determining whether a particular application is  
running on each of the plurality of clients,

determining a date of a particular virus definition  
file on each of the plurality of clients and whether the  
5 file is greater than a predetermined number of days,

determining whether each of the plurality of clients  
is running a particular server, and

determining whether a particular library is a  
particular version on each of the plurality of clients.

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--20. The method as set forth in claim 15, wherein  
the global controller dictates an interval of time  
during which the subnet controller checks the health of the  
plurality of clients, data indicating the interval of the  
15 time included within the data received from the global  
controller.

--21. The method as set forth in claim 15, wherein  
each of the plurality of clients has a rule parser,  
20 and

transmitting data to the plurality of clients within  
the subnet includes

transmitting at least one health rule for each of the  
plurality of clients to determine compliance with the at

least one health rule using the respective rule parser, the  
at least one health rule being at least one question.

--22. The method as set forth in claim 21, wherein  
5 the subnet controller stores address data identifying  
each of the plurality of clients within the subnet for  
determining a quantity of and identity of clients that  
should respond to the at least one question.

10 --23. The method as set forth in claim 22, wherein  
receiving feedback data includes  
receiving at least one response to the at least one  
respective question.

15 --24. The method as set forth in claim 23, wherein  
the at least one response is one of true or false, yes  
or no, and pass or fail.

--25. The method as set forth in claim 23, wherein  
20 evaluating the feedback data for determining the  
health of the at least one client includes  
determining whether the at least one client is active  
in the subnet and whether the at least one response

indicates compliance with the at least one corresponding health rule.

--26. The method as set forth in claim 25, wherein  
5 if the at least one client is determined to be active in the subnet and the at least one response indicates compliance with the at least one corresponding health rule, then a determination is made that the at least one client is healthy.

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--27. The method as set forth in claim 25, wherein  
if the at least one client is determined to be active in the subnet and the at least one client did not transmit a response to the at least one question, then a  
15 determination is made that the at least one client is unmanaged.

--28. The method as set forth in claim 16, wherein  
determining the client of the plurality of clients to  
20 check the health of the clients within the subnet that did not provide the feedback data to the subnet controller includes

transmitting at least one question to each of the clients of the plurality of clients that did provide the feedback data to the subnet controller,

determining which of the clients that did provide the  
5 feedback data to the subnet controller responds first to the at least one question, and

delegating a task of checking on the health of the clients within the subnet that did not provide the feedback data to the client that responds first, the task being to  
10 check on the health of the clients.

--29. The method as set forth in claim 28, wherein the client that responded first checks on the health of the clients within the subnet that did not provide the  
15 feedback data by pinging the clients that did not provide the feedback data and transmitting at least one question to at least one of the clients that respond to the pinging for determining the health of the at least one of the clients.

20 --30. The method as set forth in claim 15, further comprising:

determining a plurality of clients to check the health of the clients within the subnet that did not provide the feedback data to the subnet controller; and

receiving data from the plurality of clients regarding the health of the clients that did not provide the feedback data.

5       --31. The method as set forth in claim 30, wherein  
determining the plurality of clients to check the  
health of the clients within the subnet that did not  
provide the feedback data to the subnet controller includes  
maintaining a queue of addresses of the clients within  
10 the subnet that did not provide the feedback data to the  
subnet controller,  
transmitting a request to each of the clients that did  
provide the feedback data to check on the health of the  
clients within the subnet that did not provide the feedback  
15 data to the subnet controller, and  
delegating tasks in batches to each of the plurality  
of clients in the order that each client responds to the  
request, each task being to check on the health of a client  
located at one of the addresses.

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      --32. The method as set forth in claim 31, wherein  
the clients check on the health of the clients within  
the subnet that did not provide the feedback data by  
pinging the clients that did not provide the feedback data

and transmitting at least one question to at least one of the clients that respond to the pinging for determining the health of the at least one of the clients.

5       --33. The method as set forth in claim 28, further comprising:

receiving data from the client that responded first indicating the health of the clients within the subnet that did not provide the feedback data.

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      --34. The method as set forth in claim 31, further comprising:

receiving data from the plurality of clients indicating the health of the clients within the subnet that  
15 did not provide the feedback data.

      --35. A system for managing a network including at least one subnet, the system comprising:

a plurality of clients located within the at least one  
20 subnet, one client of the plurality of clients operable as a subnet controller for managing the at least one subnet, each of the plurality of clients having an election algorithm for selecting the one client within each of the plurality of subnets operable as the subnet controller; and

a global controller coupled to the at least one subnet, the global controller transmitting at least one health rule to the one client within each of the plurality of subnets operable as the subnet controller, wherein

5 the one client within the at least one subnet operable as the subnet controller delegates to at least one of the other clients within the at least one subnet monitoring of the plurality of clients within the at least one subnet according to the at least one health rule.